

the herpetic eruption was rapidly clearing, but remained most persistent on the meatus, the spontaneous nystagmus was still faintly present, the vomiting was less frequent, there was still some dizziness, the facial paralysis remained unchanged, and the leukocytes count was 8000 and the spinal fluid healthy. One month from the onset of the attack the facial paralysis was slowly recovering, there was a moist eczematous area corresponding to the region of the herpetic eruption, and some remaining impairment of hearing of the middle-ear type. The emphatic points in this case are, its suggestion in the first few days of the disease of an acute intracranial complication and the determination of the diagnosis by the early appearance of the herpetic eruption, which lasted for eight days following an auriculotemporal distribution, during the major portion of which from the beginning there was, in addition to the nausea, intense, frequent and uncontrollable vomiting, suggesting ganglionic involvement of the vagus; the spontaneous nystagmus made its appearance on the third day and its total duration was twelve days.

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## HYGIENE AND PUBLIC HEALTH

UNDER THE CHARGE OF

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The Etiology of Acute Epidemic Poliomyelitis.—MATHERS (*Jour. Infec. Dis.*, 1917, xx, 113) examined bacteriologically fresh material from 10 cases of acute poliomyelitis and isolated a peculiar polymorphic streptococcus-like organism in nine instances, in seven of which the growth has been pure. Similar organisms have been demonstrated microscopically in the tissues of the central nervous system of these cases. Cultures of this coccus injected into rabbits have produced paralysis of various groups of muscles, and characteristic lesions in the central nervous system consisting of hyperemia and edema of the tissues, with hemorrhages, round-cell perivascular infiltration, and neurophagocytosis in the spinal cord, especially in the gray substance, similar in every detail to the changes considered characteristic of acute poliomyelitis in man. This micrococcus has been recovered from the lesions in the inoculated rabbits by both cultural and microscopic methods. The artificial cultivation of the poliomyelitis coccus in an ascites-fluid tissue medium under anaërobic conditions causes changes in the media which cannot be differentiated from those previously described for cultures of the so-called virus of poliomyelitis. Morphologically, also, this bacterium when grown on the same media is

similar to the virus, and in stained smears it appears in minute Gram-positive coccus-like bodies arranged in pairs, groups and chains. These minute forms disappear when the organism is cultivated in other media under aerobic conditions. The morphologic, cultural, and pathogenic characters of the poliomyelitis coccus thus far determined indicate that it is an important factor in the disease.

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**Studies on Immunity in Typhus Exanthematicus with Reference to the Antibodies in Man and Guinea-Pig Demonstrable by the Dale Method.**—DONZER and OLITSKY (*Jour. Infect. Dis.*, 1917, xx, 99) state that antibodies against *Bacillus typhi-exanthematici*, demonstrated by the Dale method, are found in the serum of typhus-fever patients after the crisis. These antibodies are not present in the serum during the height of the disease. Antibodies against *Bacillus typhi-exanthematici* are found in the cells of typhus-fever guinea-pigs after the crisis. These antibodies are not demonstrable during the height of the disease. The reaction in the serum of typhus-fever patients and in the cells of the guinea-pig is specific; that is, by the use of similar methods no antibodies to *Bacillus typhi-exanthematici* could be demonstrated in the blood of normal individuals or of patients suffering from other infections. Guinea-pigs in the postcritical stage of typhus fever showed antibodies only to *Bacillus typhi-exanthematici*, and not to *Micrococcus aureus*, *Bacillus typhosus*, or *Bacillus acne*. The results with the Dale method offer further evidence of the etiologic relationship between *Bacillus typhi-exanthematici* and typhus exanthematicus.

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**Comparison of Methods for Disinfecting Swimming Pools.**—MANHEIMER (*Jour. Infect. Dis.*, 1917, xx, 1) states that the value of ultra violet light as a disinfectant in swimming pools has not yet been definitely determined. Swimming pools equipped with ultra-violet-light apparatus showed lower bacterial pollution during its use, than before its use. A somewhat longer exposure of the water to the light would seem desirable; in most instances bacterial reduction was not observed after the water had passed through the ultra-violet-light apparatus. In regard to the method of adding chemicals to the water, it appears that the value of slow continuous addition or of single daily dosing varies with the chemical used. Copper sulfate gave better results when added gradually and continuously, while sodium hypochlorite gave the better results with single daily dosing. The relative efficiency of chemicals for water disinfection may be expressed as follows: (a) Calcium hypochlorite—high efficiency, low cost, not much care necessary in handling; (b) chlorine gas—efficiency high, cost very low, easily handled; (c) "lectroside"—cost ten times as much as for hypochlorite, high efficiency, very easily handled; (d) copper sulfate—cost high, efficiency low, stains tiles, causes reduction in transparency of water, easily handled. Final decision on a standard method for pool disinfection has not yet been reached, and cannot be until after ozone and other methods still under investigation have been fully tested. In the nine pools examined, refiltration was practised in all cases, a procedure which should be standard in all indoor pools.